

U.S. Wheat Crop Update

IAOM Central, Wheat State and Texoma Summer Meeting

Justin Gilpin

KS Wheat Commission

Overview

- KS Wheat and KSU
- Wheat War
- 2023 Winter wheat crop early yield and quality
 - Quality data maps
- Market conditions





Kansas Wheat Innovation Center

"Wheat farmers investing in their future."



KANSAS
WHEAT®

Rediscover Wheat



What is in the EDGE District?



Global event, 74 weeks ongoing with uncertainty



*Russia Declares War On and Invades Ukraine
February 23, 2022*



Assessed Control of Terrain in Ukraine and Main Russian Maneuver Axes as of July 23, 2023, 3:00 PM ET



Map by George Barros, Kateryna Stepanenko, Noel Mikkelsen, Daniel Mealie, Thomas Bergeron, Mitchell Belcher, Christopher Hoeft, and Cole Quick
© 2023 Institute for the Study of War and AET's Critical Threats Project

* Assessed Russian advances are areas where ISW assesses Russian forces have operated in or launched attacks against but do not control.

We are witnessing historic events

- **Russia is set to be the world's largest wheat exporter for 23/24, with nearly 22% of world wheat exports.**
- **July 18th, Russia rejects renewal of the Grain Corridor, halting shipments out of Odessa.**
- **Following days, Russian missile and drone strikes hit grain facilities in Odessa.**
- **Russia MOD warns that any vessels in the area will be considered possible threats.**
- **Ukraine MOD responds with threats in kind.**
- **July 23, Russian drones strike grain facilities on Danube River, Ukraine's other outlet that is near Romania...a NATO member.**
- **Russia comments that they have enough wheat to supply importers without Ukraine.**
- **Clear intent to strike grain infrastructure in Ukraine as the war escalates, wheat futures move to limit up on Monday, July 24th, 2023.**
- **Will Russian wheat exports be retaliated against?**

Black Sea Grain Deal Suspended

- Russia has pulled out of a deal that ensured safe passage for grain shipments crossing the Black Sea and has since been targeting Ukraine's grain facilities in Odesa and along the Danube River.
- In Odesa, it was reported strikes had destroyed more than 60,000 tonnes of grain and damaged considerable parts of the grain export infrastructure.
- Attack in Reni was less than 400 m from Romania and hit grain storage and facilities.
- The deal agreed in July 2022 between Russia and Ukraine - brokered by Turkey and the UN - allowed cargo ships to sail to and from Ukrainian ports and along a corridor in the Black Sea to export millions of tonnes of grain to the rest of the world. Targeting the Danube, would have been the outlet for Ukrainian grain in the absence of the deal.



Ukrainian and Russian Grain Exports



What to be watching

- **Russian wheat shipment disruptions. Currently exporting at a feverish pace of 4 mmt per month.**
- **Any maritime military action versus civilian vessels, by Russia or Ukraine.**
- **NATO said to be increases Black Sea monitoring. ?**
- **Shipping insurance companies and if they begin to waver due to escalation in military activity.**
- **Russia actively meeting with African nations, leveraging wheat dependency**
- **Wheat from occupied territories and ports being monitored**
 - **The world had been anticipating 4-4.5 mmt of wheat per month exported from these “Black Sea” (Ukraine and Russian) ports.**
 - **Russia wheat shipments anticipated to be 40 mmt, pace would need to increase.**
- **Ukrainian wheat movement. EU agreements to let it move by land, but only to certain points.**
- **War displaced wheat into Eastern Europe will continue to be priced**

Russian actions and wheat market reactions

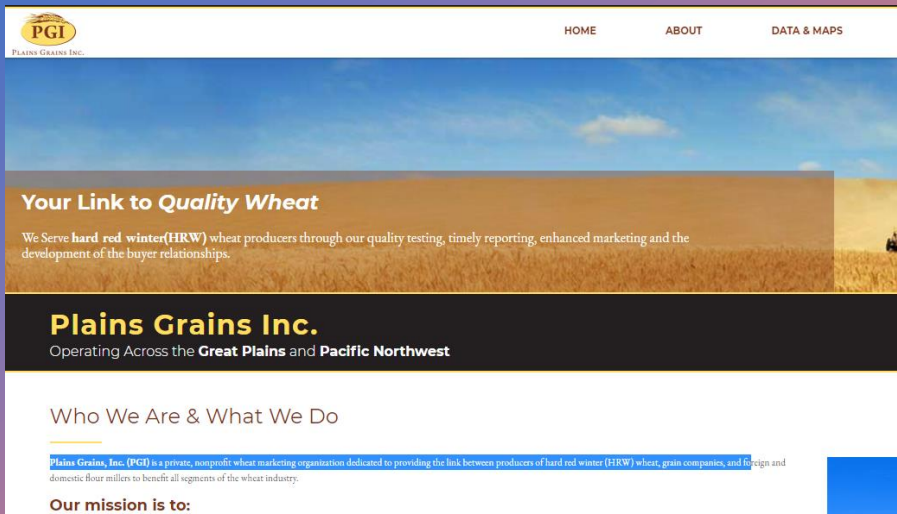




Ok, let's spend
some time talking
US Wheat crop
outlooks

2023 HRW Crop

- Samples collected at harvest beginning in May
- HRW samples collected throughout harvest
- Collection and management of samples by
 - Plains Grain Inc.,
www.plainsgrains.org
- Crop Quality booklets will be available on the US Wheat Website www.uswheat.org
- Testing performed at USDA Wheat Quality lab located in Manhattan, KS





The USDA Hard Winter Wheat Quality Laboratory, located in Manhattan, KS mission is to ensure a high quality and safe U.S. grain supply for our customers.

- 1) Milling and testing of yearly harvest samples
- 2) Testing of breeding experimental lines to provide quality testing and evaluation

2020

Test Results

Search

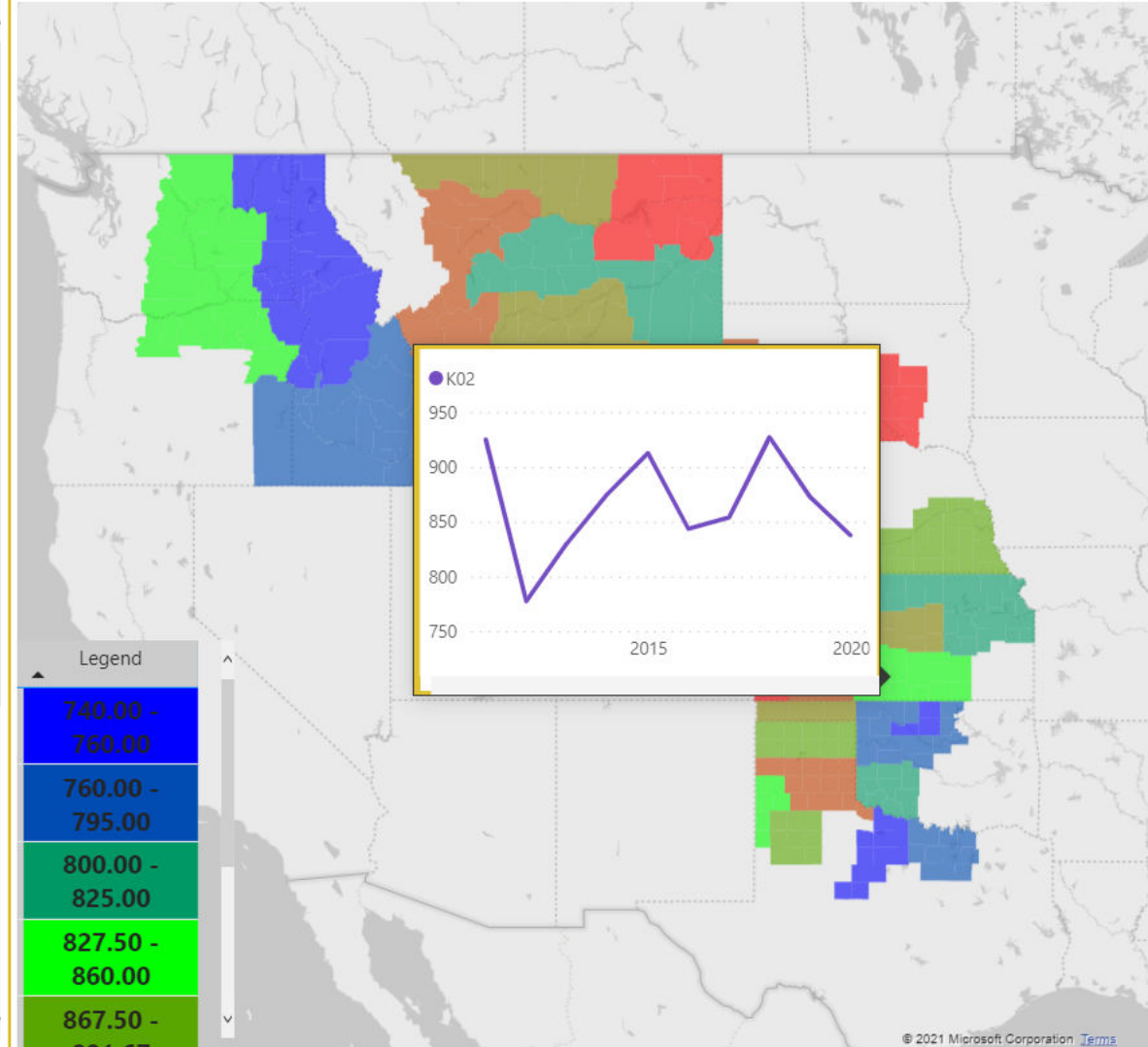
- ☐ CF_cMix Time (min)
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- ☐ CF_EXTENSO 45 min R...
- ☐ CF_FARINO Abs (14% ...
- ☐ CF_FARINO Breakdown...
- ☐ CF_FARINO Developmt ...
- ☐ CF_FARINO MTI (BU)
- ☐ CF_FARINO Stability (...)
- ☐ CF_Mix Time (min)
- ☐ CF_Mix Tolerance Index
- ☐ CF_Mix Water Abs (1...
- ☒ Baking
 - ☐ CF_Bake Abs (14% mb)
 - ☐ CF_Bake Mix (min)
 - ☐ CF_Crum Grain (1-10)
 - ☐ CF_Crumb Grain (0-6)
 - ☐ CF_Crumb Texture (0-6)
 - ☐ CF_Crumb Texture (1-1...
 - ☒ CF_Loaf Volume (cc)

Loaf Volume (cc)

Code Average

T02	740.00
PNW03	750.00
O06	755.00
O02	760.00
O04	760.00
O07	775.00
T03	775.00
O05	785.00
PNW04	795.00
M04	800.00
N05	802.50
M06	805.00
O01	817.50
K04	825.00
K05	825.00
N01	827.50
PNW01	836.67
K02	837.50
PNW02	860.00
T04	860.00
N03	867.50
T06	872.50
T01	875.00
N04	880.00
W01	881.67
K03	882.50
M01	887.50
N02	887.50

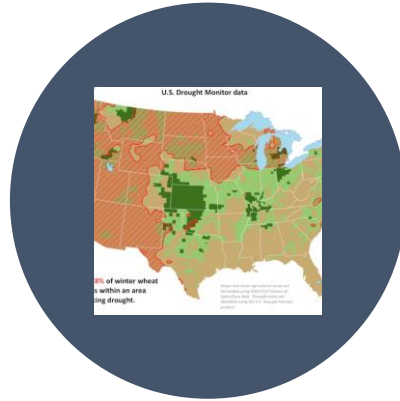
Loaf Volume (cc)



A Quick Look at the US Winter Wheat Crop



CROP CONDITIONS
HARVEST PROGRESS



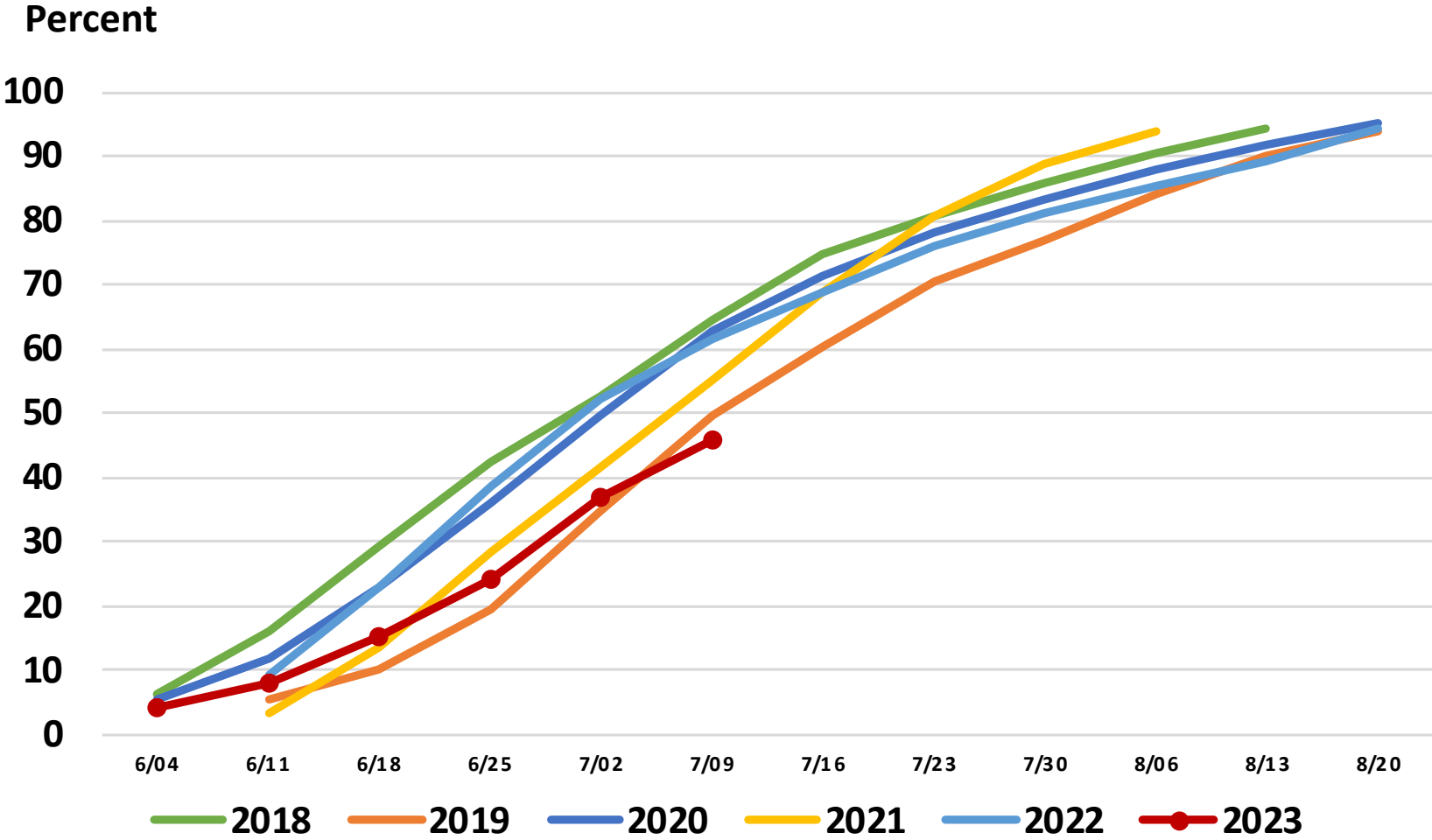
PLANTED ACREAGE
YIELD EXPECTATIONS



EARLY HARVEST REPORTS
QUALITY DATA

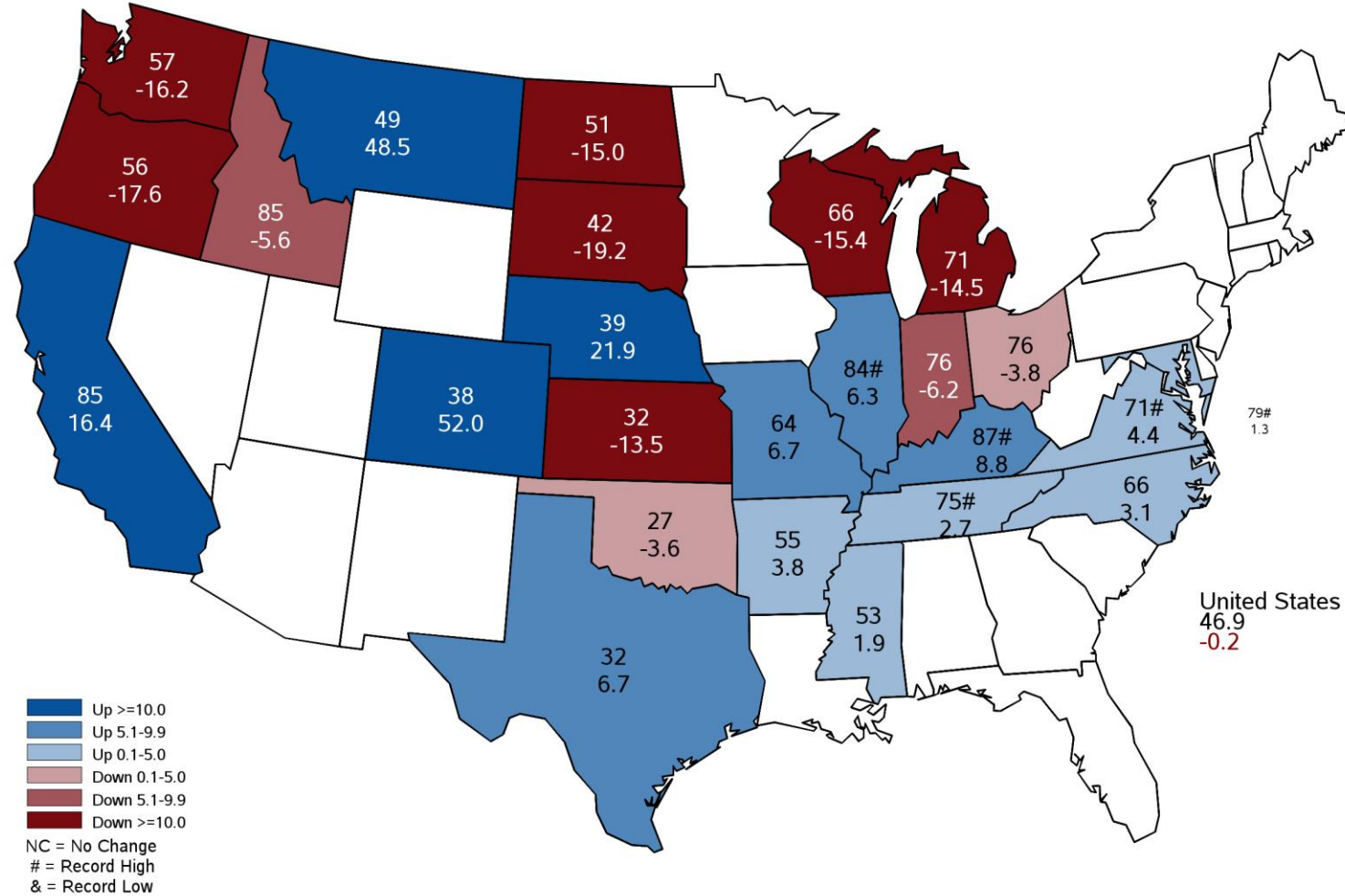
United States Winter Wheat Progress

Percent Harvested



July 2023 Winter Wheat Yield

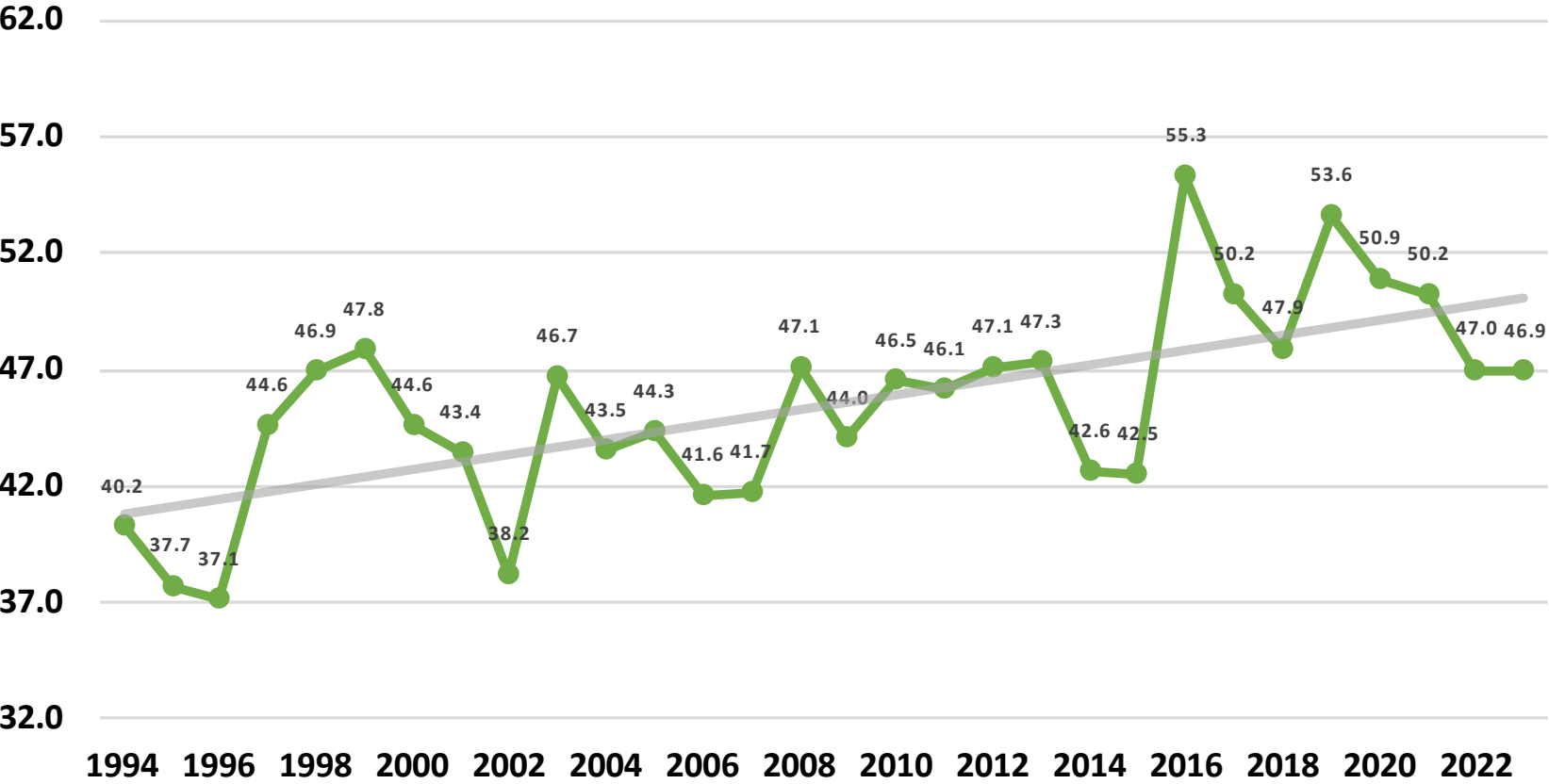
Bushels and Percent Change from Previous Year



Winter Wheat Yield

United States

Bushels per Acre



July 2023 Winter Wheat

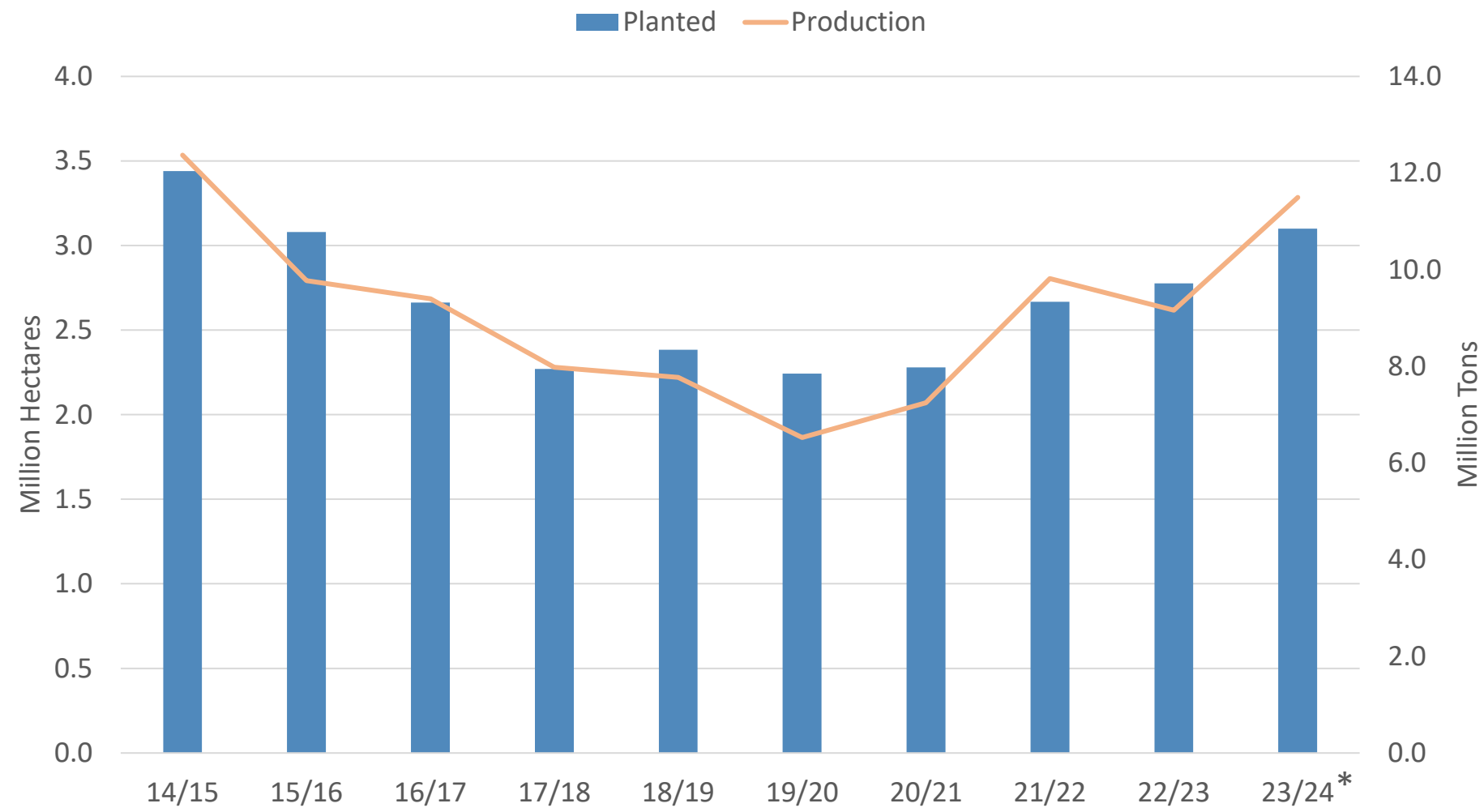
Acreage, Yield, and Production

	Planted (1,000 Acres)	Harvested (1,000 Acres)	Yield (Bushels/Acre)	Production (1,000 Bushels)
United States	37,005	25,700	46.9	1,206,435
% Change from Previous Estimate	NC	NC	↑ 4.5	↑ 6.2
% Change from Previous Season	↑ 11.2	↑ 9.6	↓ 0.2	↑ 9.3

Top 5 States - By Production											
	Planted (1,000 Acres)		Harvested (1,000 Acres)		Yield (Bushels/Acre)		Production (1,000 Bushels)				
		% Δ PY		% Δ PY		% Δ PY		% Δ PY			
Kansas	8,100	↑ 11.0	6,500	↓ 1.5	32.0	↓ 13.5	208,000	↓ 14.8			
Washington	1,800	↓ 2.7	1,740	↓ 3.3	57.0	↓ 16.2	99,180	↓ 19.0			
Montana	1,900	↓ 7.3	1,650	↓ 8.3	49.0	↑ 48.5	80,850	↑ 36.1			
Oklahoma	4,600	↑ 7.0	2,600	↑ 6.1	27.0	↓ 3.6	70,200	↑ 2.3			
Colorado	2,300	↑ 17.9	1,800	↑ 25.9	38.0	↑ 52.0	68,400	↑ 91.3			

% Change from Previous Estimate represents change from *Acreage* report for Planted & Harvested Acres and change from June *Crop Production* report for Yield & Production.

U.S. SRW Planting and Production



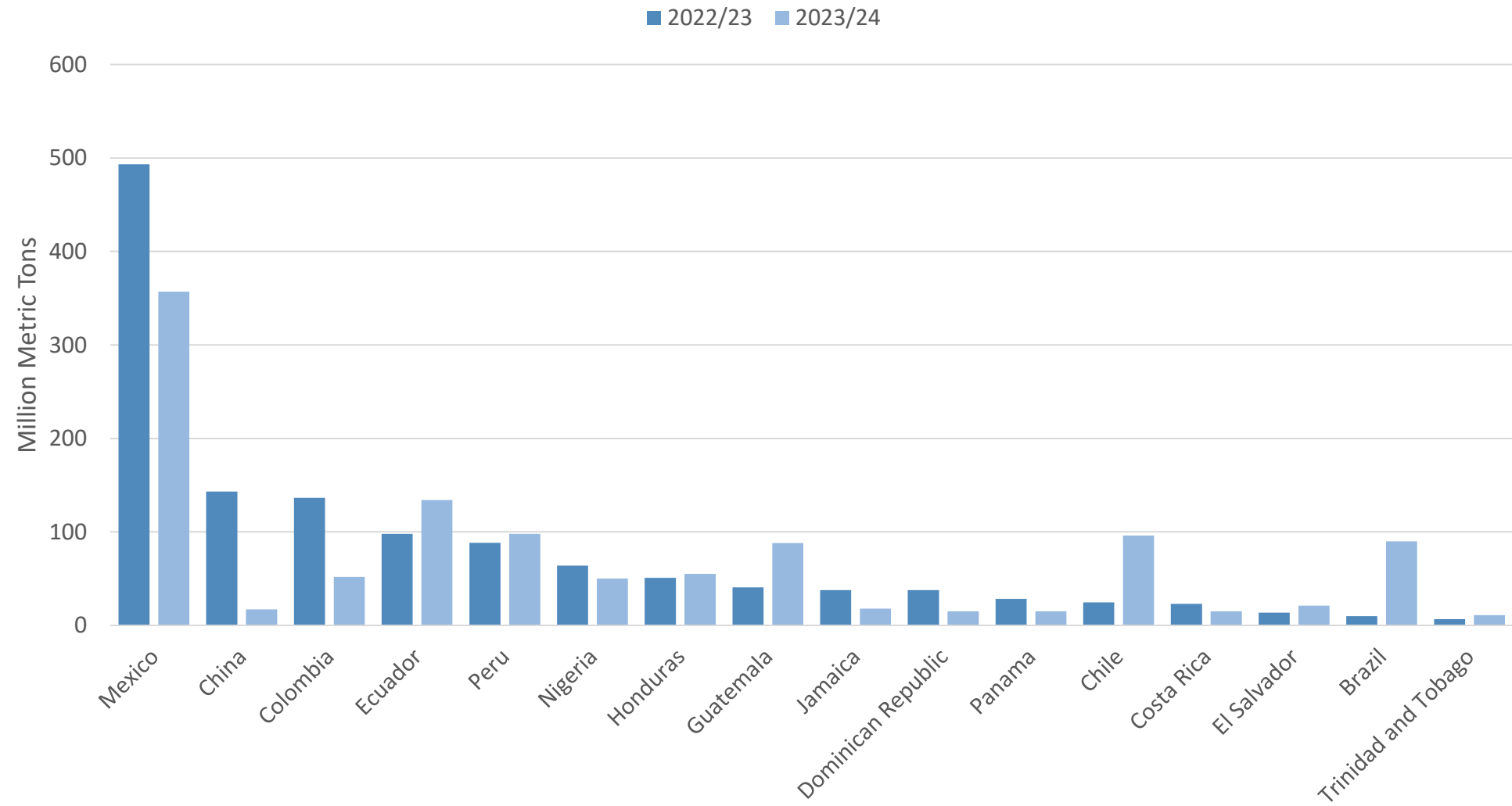
*Estimated Production

U.S. Wheat Commercial Sales as of July 13, 2023

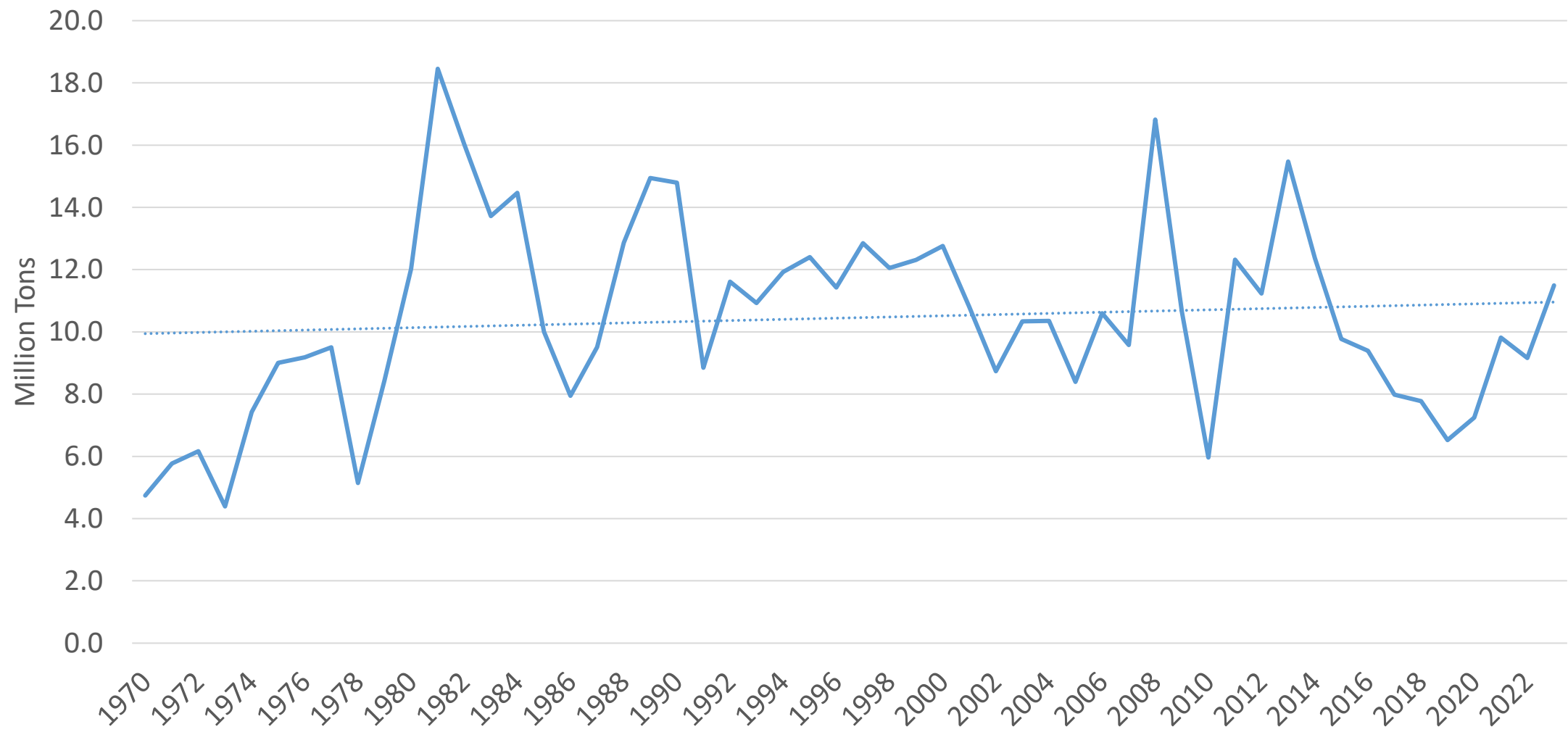
<i>Top 20 importers ranked by total 2022/23 sales</i>	<i>Total historic marketing year sales (June 1 to May 31)</i>							<i>Marketing year-to-date</i>		<i>change from last year</i>	<i>change from last week</i>
	1,000 metric tons							2023/24	2022/23		
Soft Red Winter	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23				
Mexico	1,004	733	917	815	645	929	939	357	493	-28%	0.9
Colombia	229	274	259	288	232	269	325	52	136	-62%	-0.9
Ecuador	178	100	197	112	47	97	279	134	98	37%	6.5
China	16	4	0	0	185	354	166	17	143	-88%	0.0
Peru	144	155	175	162	113	157	153	98	88	11%	-5.5
Dominican Republic	108	114	110	116	81	52	111	15	38	-60%	3.0
Brazil	55	55	79	98	49	63	89	90	10	-	33.0
Nigeria	226	245	272	173	51	222	77	50	64	-22%	0.0
Jamaica	75	78	75	78	73	71	75	18	38	-52%	0.0
Honduras	116	108	105	75	49	38	74	55	51	7%	1.6
Guatemala	26	21	29	22	19	88	73	88	41	118%	0.0
Costa Rica	45	60	59	78	66	83	69	15	23	-35%	0.0
El Salvador	16	24	9	5	5	41	44	21	14	58%	0.0
Trinidad and Tobago	35	38	49	40	32	35	43	11	7	60%	0.0
Panama	32	39	39	42	35	38	37	15	28	-48%	0.0
South Africa	29	39	23	36	24	19	35	0	0	-	0.0
Morocco	0	28	0	0	0	0	32	0	0	-	0.0
Chile	13	8	46	89	29	36	31	96	25	292%	48.9
United Arab Emirates	54	36	32	36	11	44	27	0	0	-	0.0
Venezuela	14	37	12	4	0	13	22	16	0	-	0.0
Total Unknown	68	132	23	67	0	40	80	229	191	20%	-69.0
SRW Total Sales	2,526	2,513	3,323	2,453	1,841	2,874	2,845	1,405	1,499	-6%	21.7
Top 20 as a % of Total	96%	87%	75%	93%	95%	92%	95%	82%	86%		402%

Top Importers of SRW (2022/23)

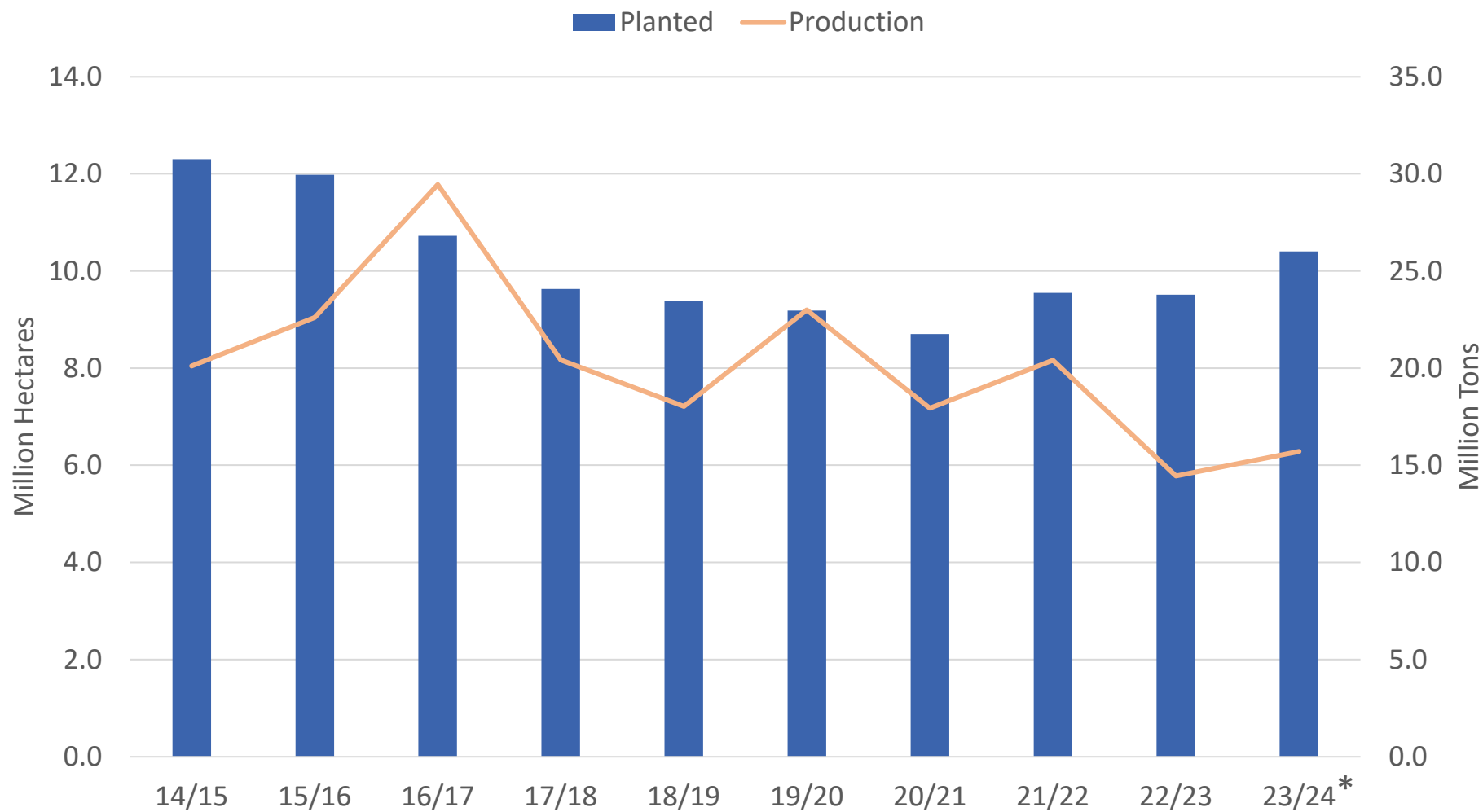
U.S. Wheat Commercial Sales as of July 13, 2023



U.S. SRW Production (1970-2023)



U.S. HRW Planting and Production



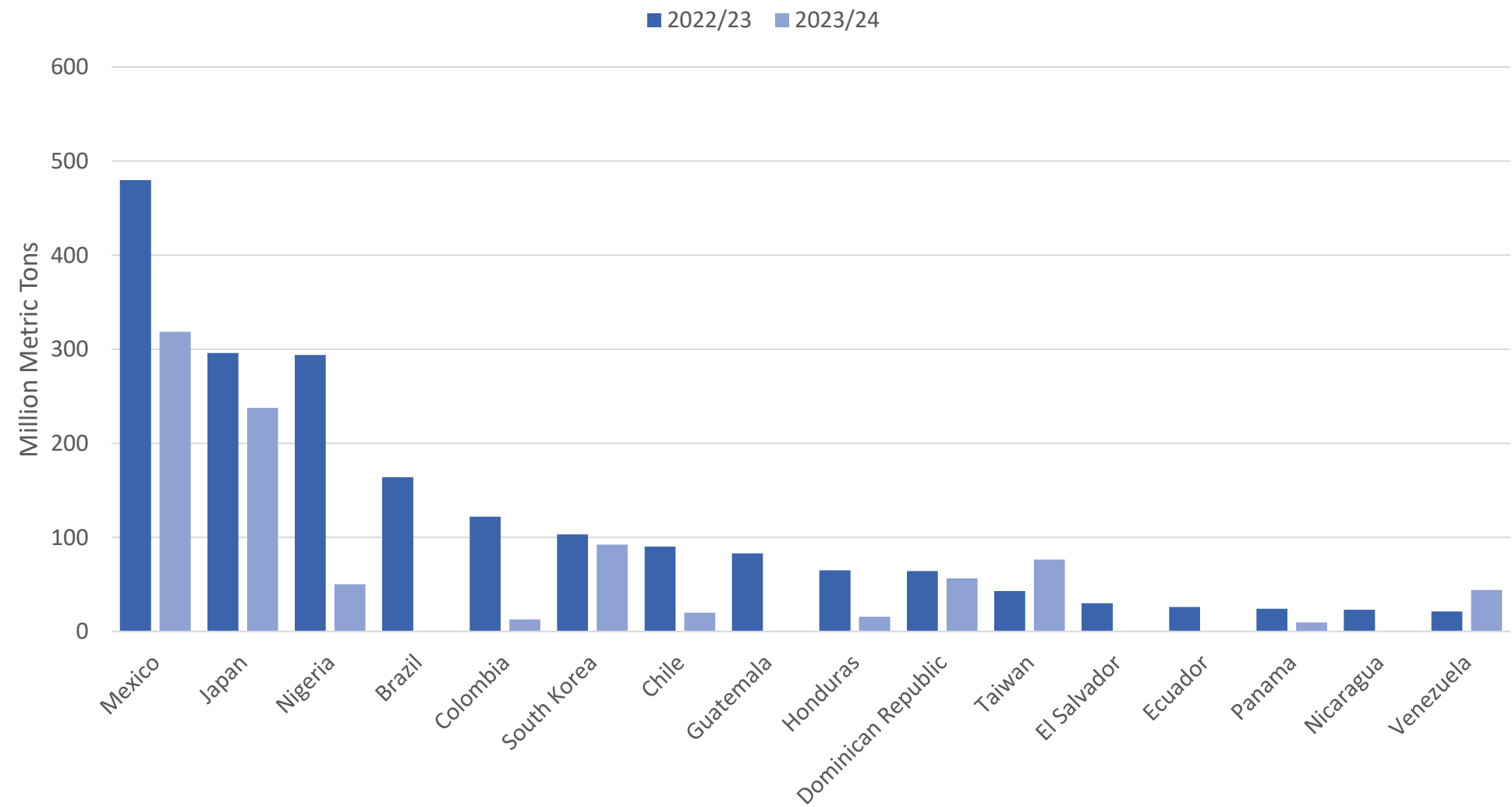
*Estimated Production

U.S. Wheat Commercial Sales as of July 13, 2023

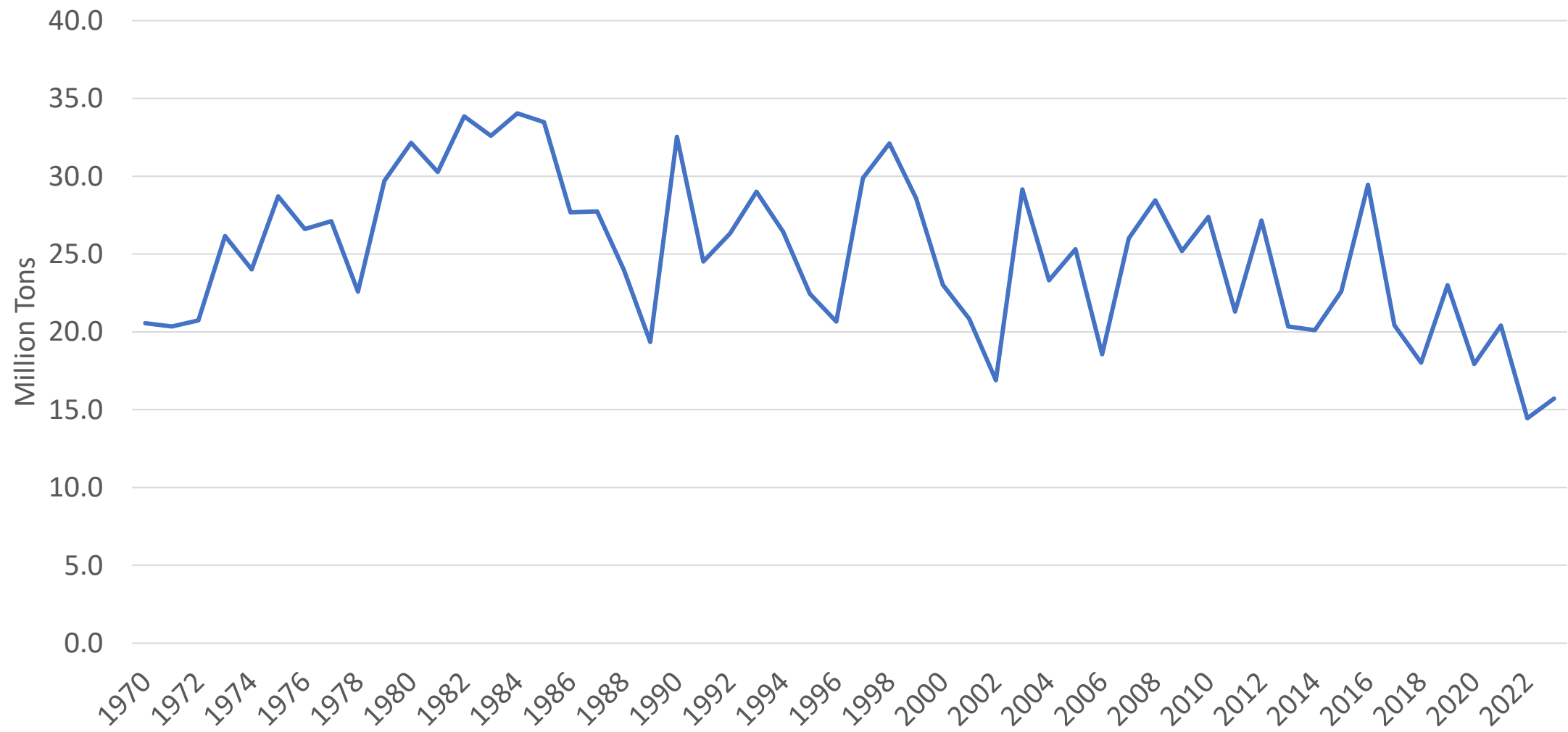
<i>Top 20 importers ranked by total 2022/23 sales</i>	<i>Total historic marketing year sales (June 1 to May 31)</i> 1,000 metric tons							<i>Marketing year-to-date</i>		<i>change from last year</i>	<i>change from last week</i>
Hard Red Winter	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2022/23	<i>year change</i>	<i>week change</i>
Mexico	1,959	2,027	2,136	2,612	2,333	2,241	1,503	319	480	-34%	22.0
Japan	979	1,020	956	937	875	910	886	238	296	-20%	28.7
Nigeria	1,177	836	1,142	1,013	1,052	1,097	554	50	294	-83%	0.0
South Korea	241	282	308	377	303	293	287	92	103	-11%	1.5
Dominican Republic	138	141	140	156	120	190	201	56	64	-11%	7.8
Taiwan	358	344	380	483	371	291	190	76	43	78%	0.0
Brazil	1,155	73	189	450	513	33	188	0	164	-100%	0.0
Colombia	607	400	125	505	156	393	166	13	122	-90%	0.0
Venezuela	192	240	178	118	144	268	166	44	21	107%	0.0
Iraq	0	671	674	210	0	0	157	0	0	-	0.0
Honduras	38	44	66	133	138	163	157	16	65	-76%	0.2
Guatemala	253	251	246	293	162	266	102	0	83	-100%	0.0
Chile	420	161	89	239	229	35	97	20	90	-78%	1.8
Thailand	180	141	145	217	146	107	90	18	11	61%	0.0
Nicaragua	32	0	0	1	37	119	51	0	23	-100%	0.0
Ghana	0	0	35	19	0	26	47	0	0	-	0.0
El Salvador	101	138	120	105	57	118	41	0	30	-100%	0.0
Ecuador	92	133	70	350	201	35	36	0	26	-100%	0.0
Haiti	86	108	110	127	70	130	33	7	7	2%	0.0
Panama	24	30	29	28	33	32	30	10	24	-61%	0.0
Total Unknown	140	29	181	44	0	58	60	76	206	-63%	-8.0
HRW Total Sales	11,912	9,311	9,385	10,170	8,724	7,481	5,108	1,041	2,177	-52%	54.0
Top 20 as a % of Total	67%	76%	76%	82%	80%	90%	98%	92%	89%		115%

Top Importers of HRW (2022/23)

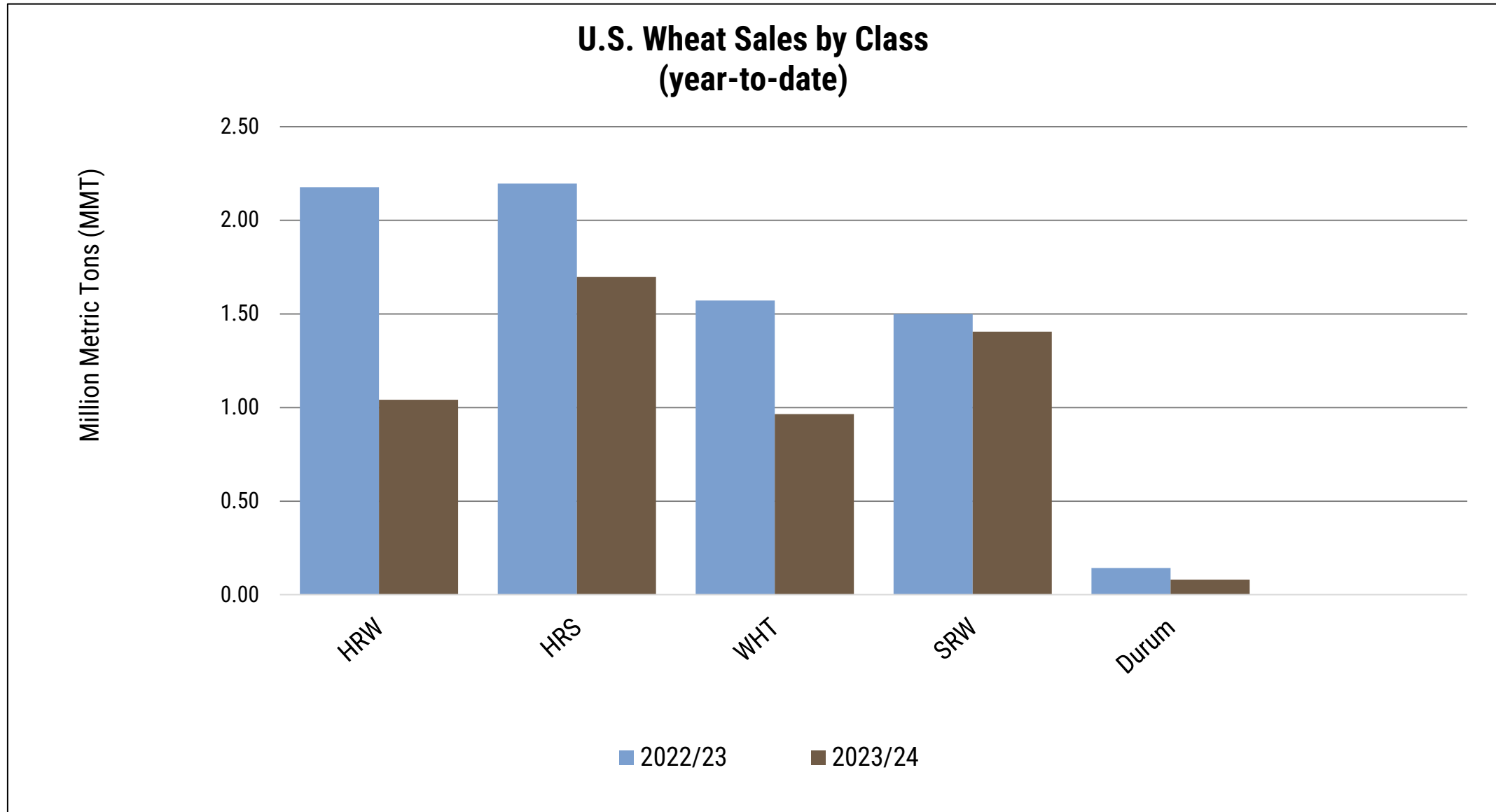
U.S. Wheat Commercial Sales as of July 13, 2023

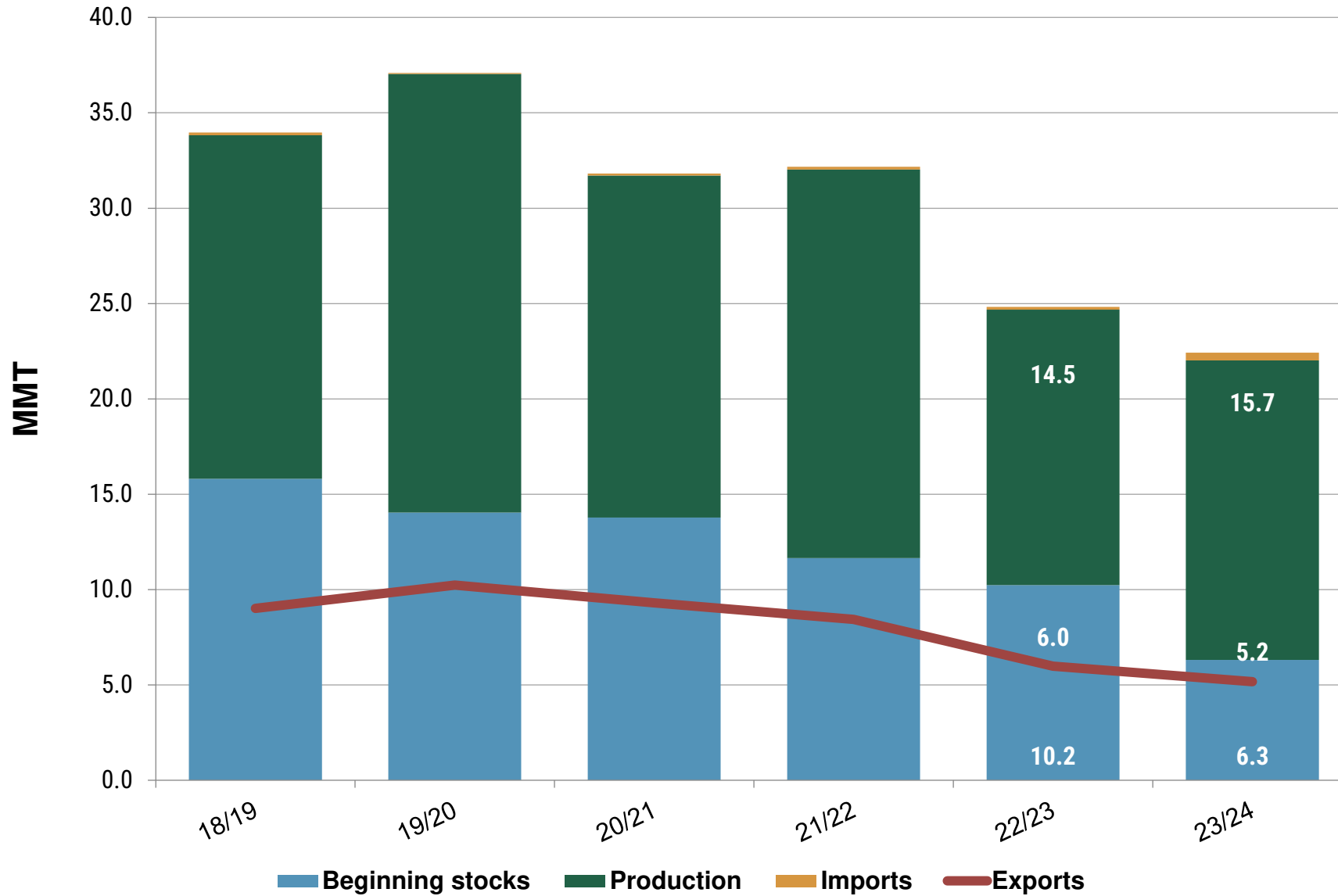


U.S. HRW Production (1970-2023)

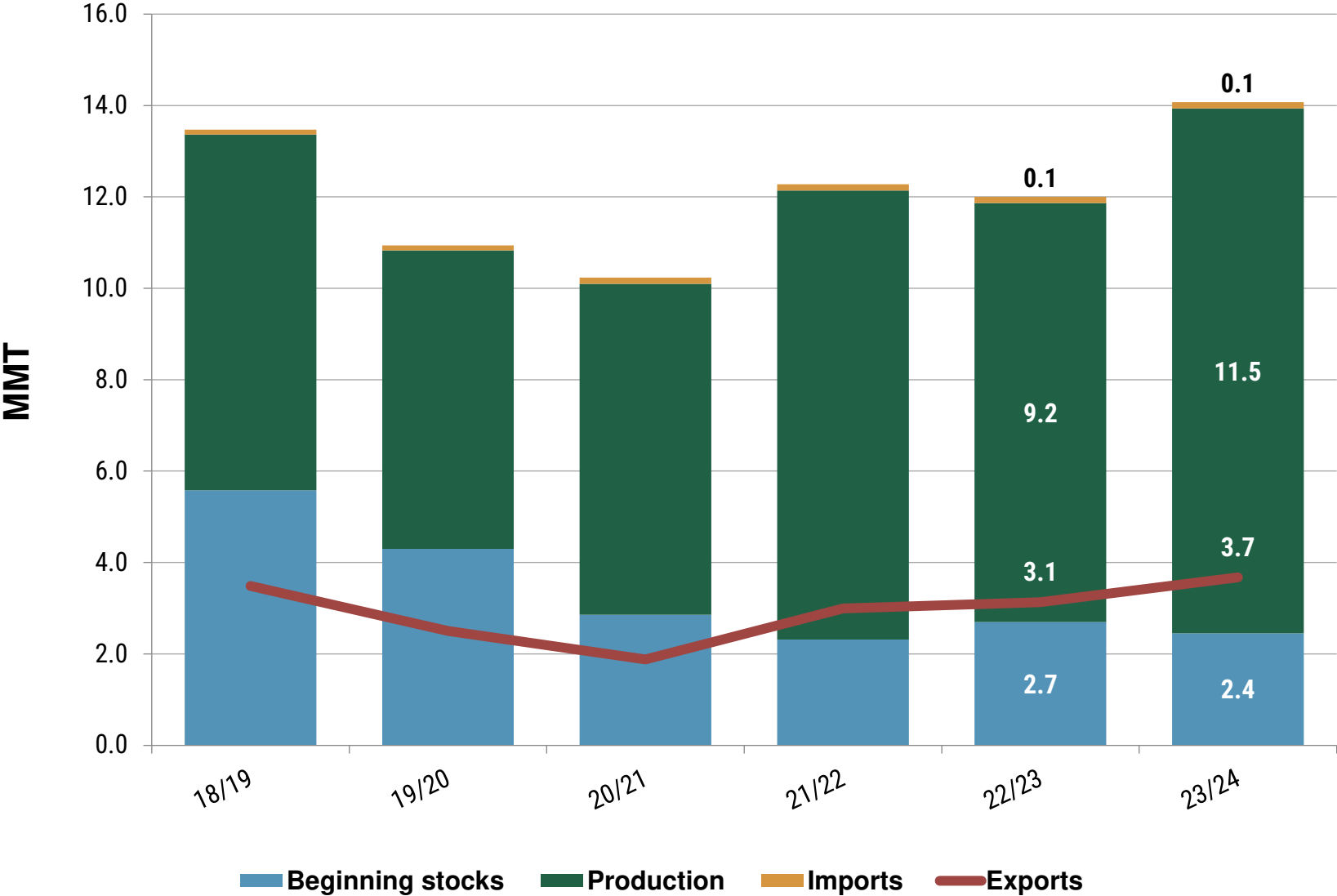


U.S. Wheat Sales by Class



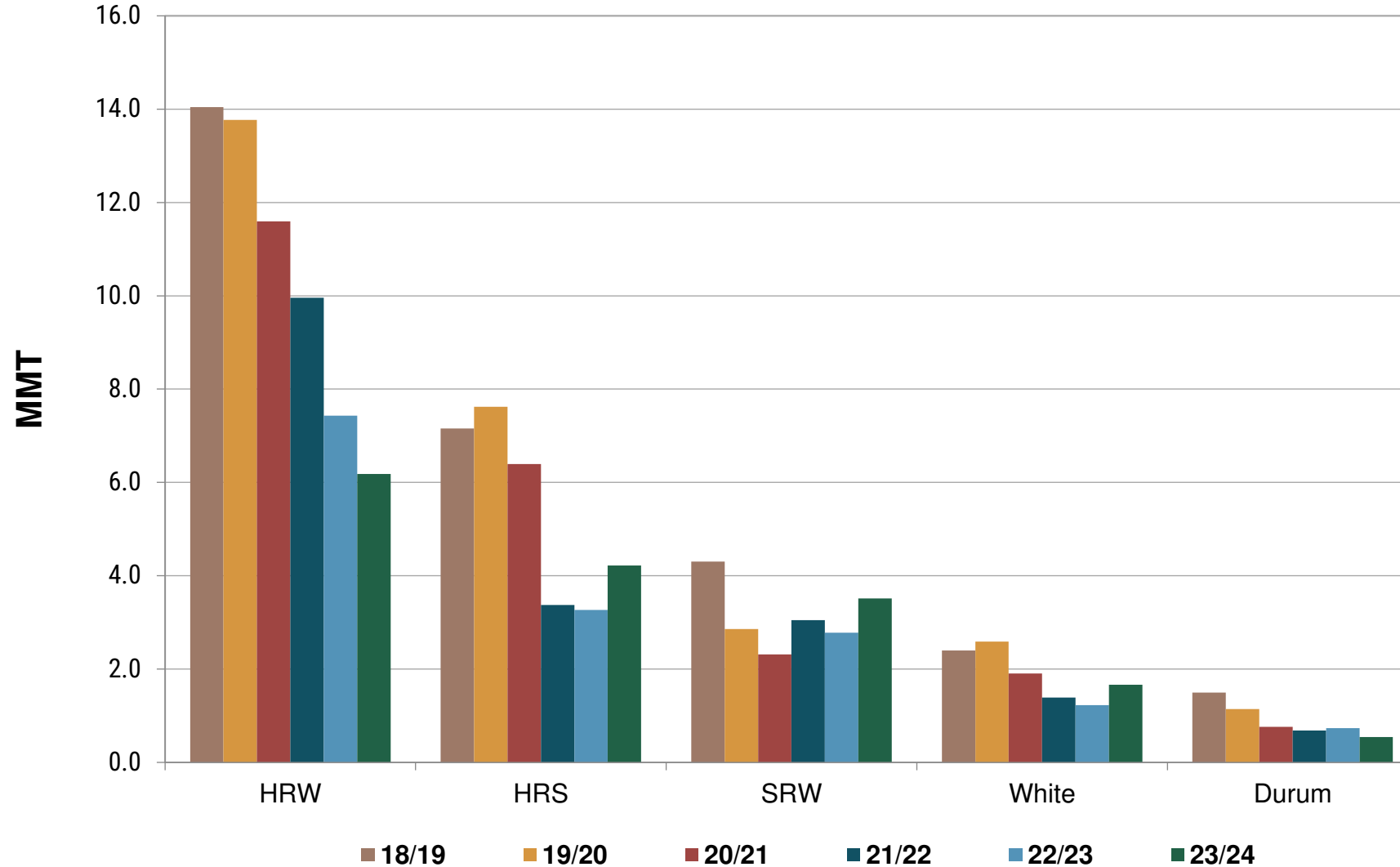


U.S. Soft Red Winter



U.S. Wheat Ending Stocks by Class

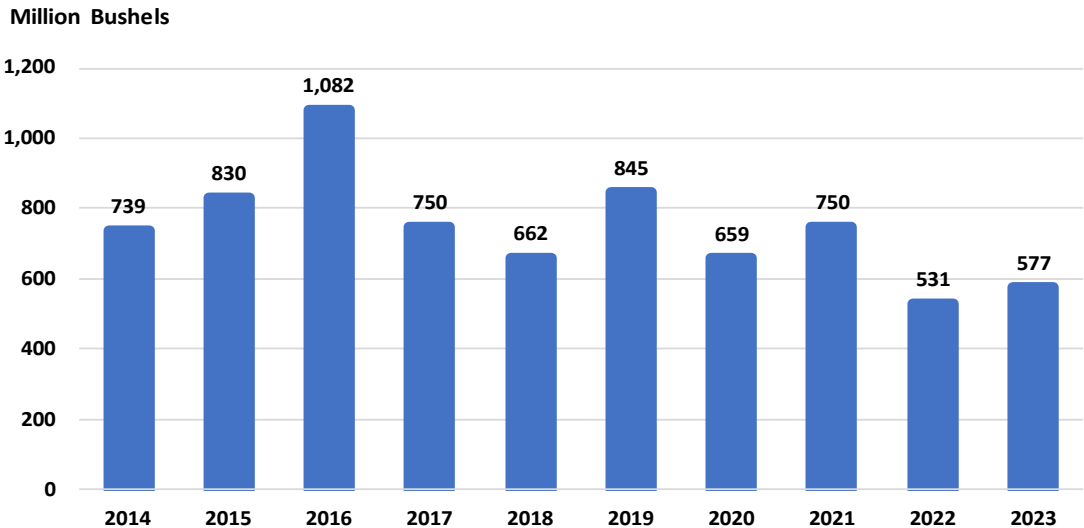
HRW considerably lower...



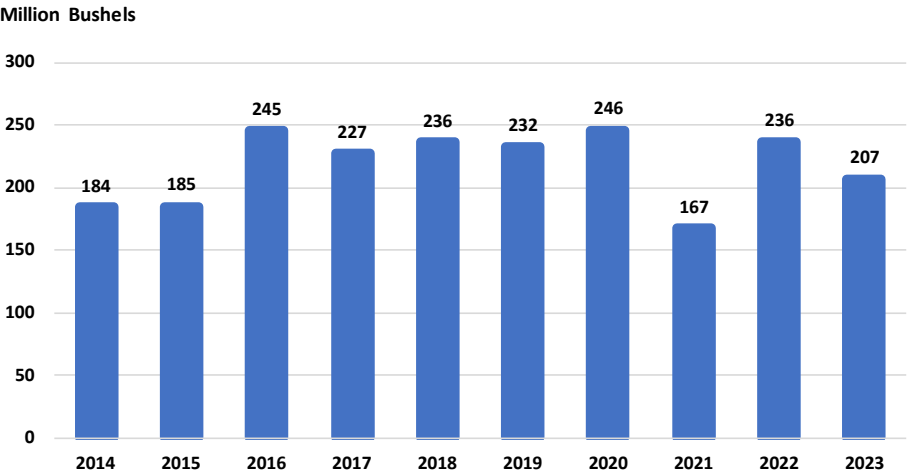
July 2023 Winter Wheat Production United States by Class

	Production	Unit
	(1,000 Units)	
Hard Red Winter Wheat	577,215	Bu
% Change from Previous Estimate	↑ 9.9	
% Change from Previous Season	↑ 8.7	
Soft Red Winter Wheat	422,275	Bu
% Change from Previous Estimate	↑ 5.1	
% Change from Previous Season	↑ 25.5	
White Winter Wheat	206,945	Bu
% Change from Previous Estimate	↓ 1.1	
% Change from Previous Season	↓ 12.4	

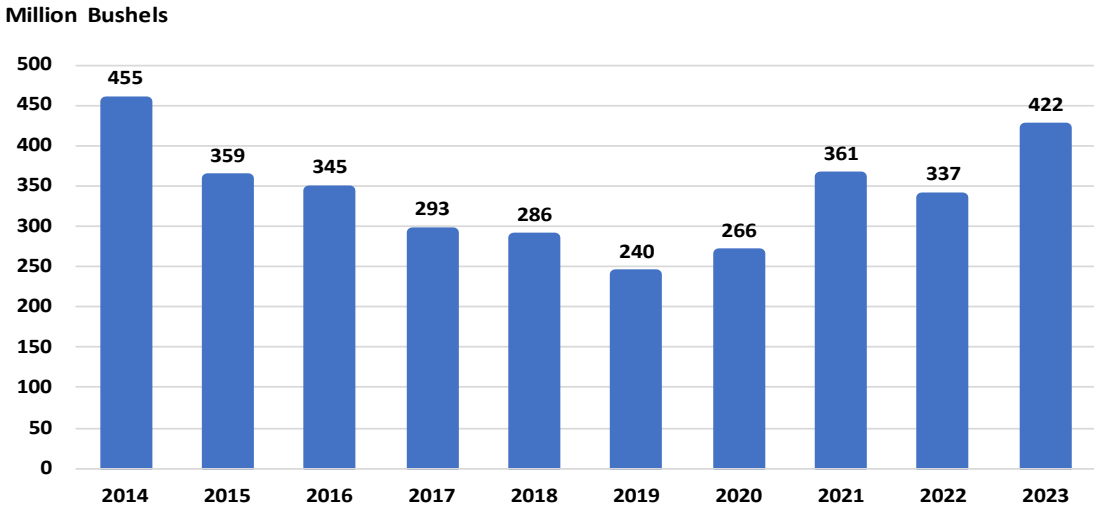
Hard Red Winter Wheat Production
United States



White Winter Wheat Production
United States



Soft Red Winter Wheat Production
United States



2023 Southern Plains

- Texas and Oklahoma harvest;
 - Texas: only 1.3 mi acres harvested last year ; 2.00 this year
- TX harvest
 - 64 million bushels up from 39 million bushels
- Oklahoma harvest
 - 40.8 million bushels compared to 48.9 million bushels
 - Oklahoma yield up to 27 bu/ac vs. 25 year ago
 - Drought during growing season then heavy rains at harvest hurt yields and some pockets of quality issues
- Overall, big difference in 2023: crop better in TX than OK in the Southern Plains.

Colorado and Kansas early 2023 data

- Colorado harvest extending out later...
 - Yields well above average broke the drought with a vengeance.
 - Yields 38 bu vs 32 LY
 - Proteins lower seeing a lot of 10s.
 - 68 mi bu vs. good crop last year of 35 mi bu.
- Kansas to produce 208 million bushels
 - Yields were below average and highly variable
 - Reports from fields zeroed out to 70 bushel an acre
 - Proteins strong. Test weights good early, but wavered last part of harvest. 57-60 lbs per bushel.
 - Above avg. proteins with the lower yields...
 - 11% to 15%....estimates look to have state average near 13%
 - Kansas to average 12.5 – 13.5% protein

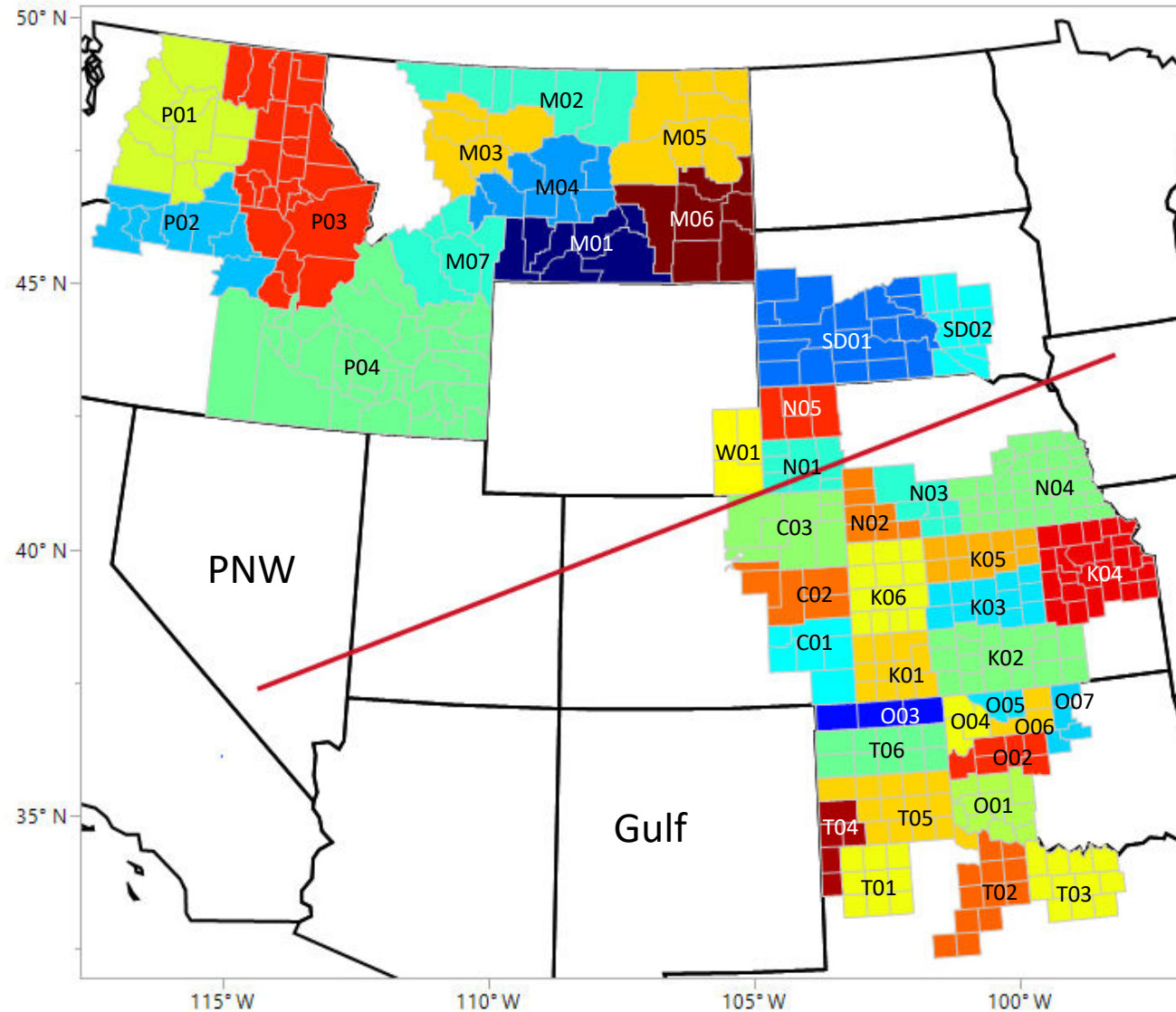
Colorado and Kansas Quality data



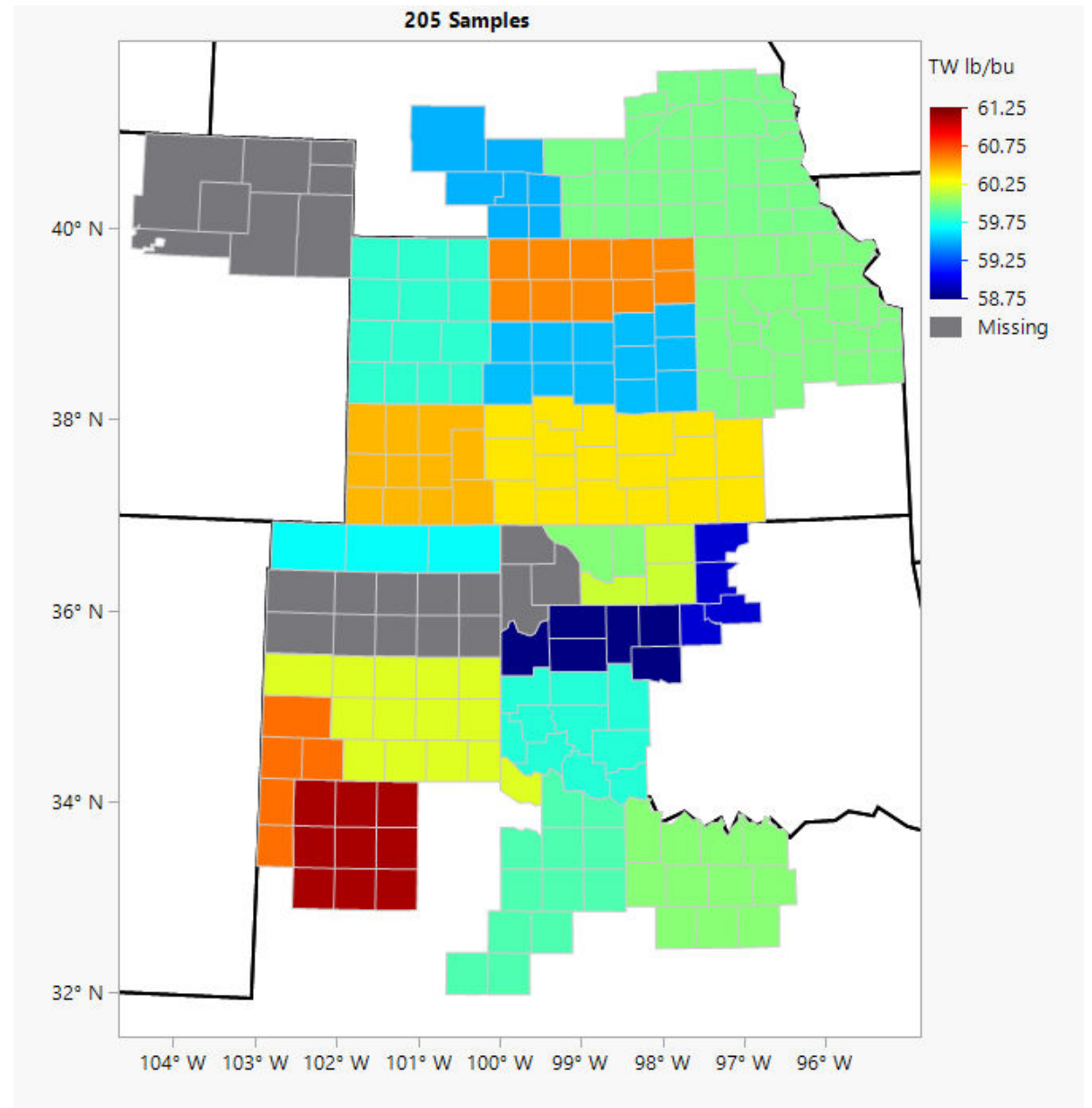
- Quality
 - Test weights off versus last year
 - Some increased damage and pockets of good and bad stuff.
 - Baking characteristics and strength look similar to last year early; higher stability and wet gluten than average
- Milling characteristics look slightly lower year on year extractions
- Baking data...similar year on year
 - Last year “year of the miller”...this year, “year of...the baker...”
- Mother nature helped us meet protein demands this year
 - Milling objectives is maximizing extraction with lower test weights and variability

Plains Grains, Inc.

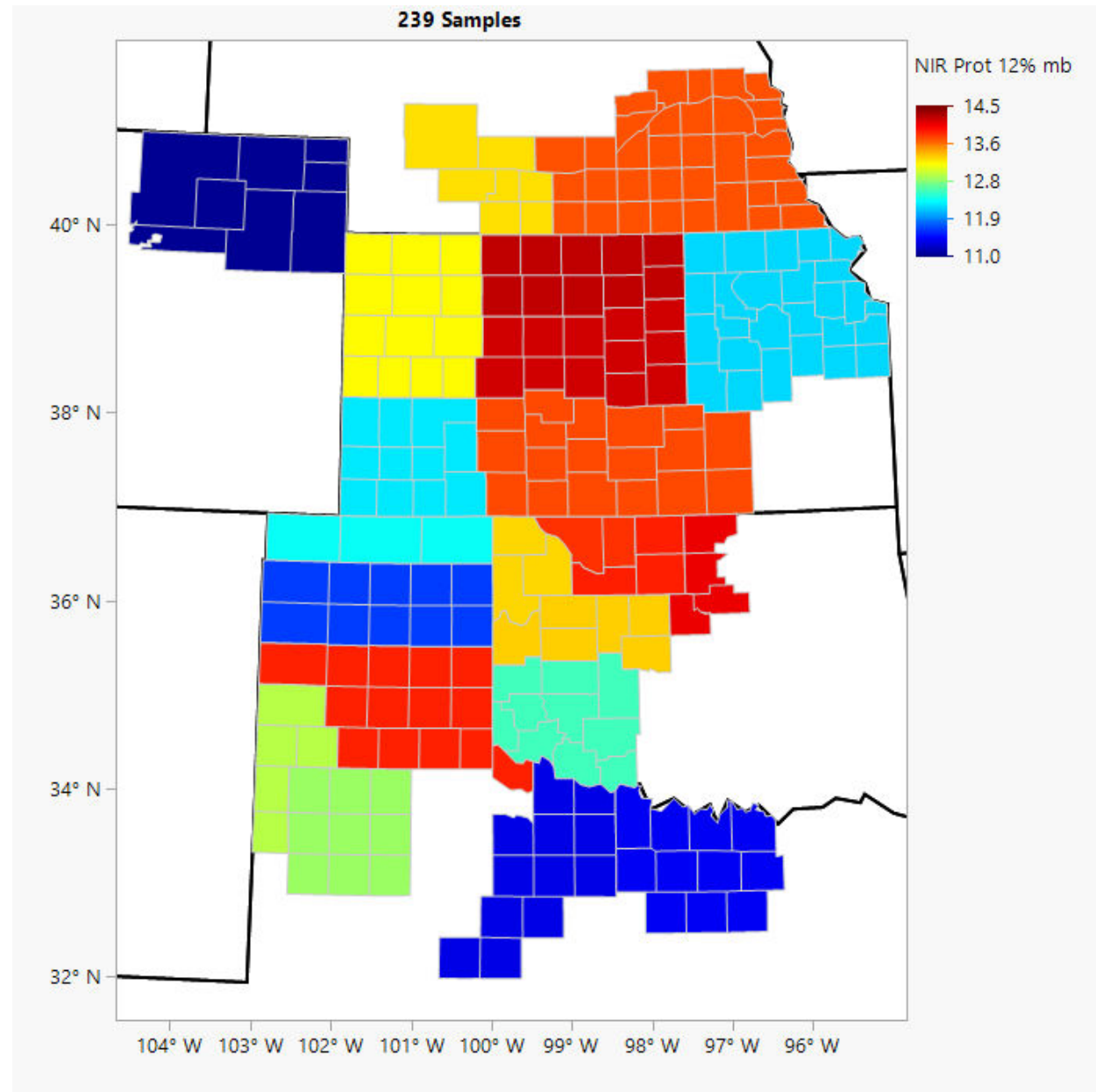
Grainsheds and Export Areas



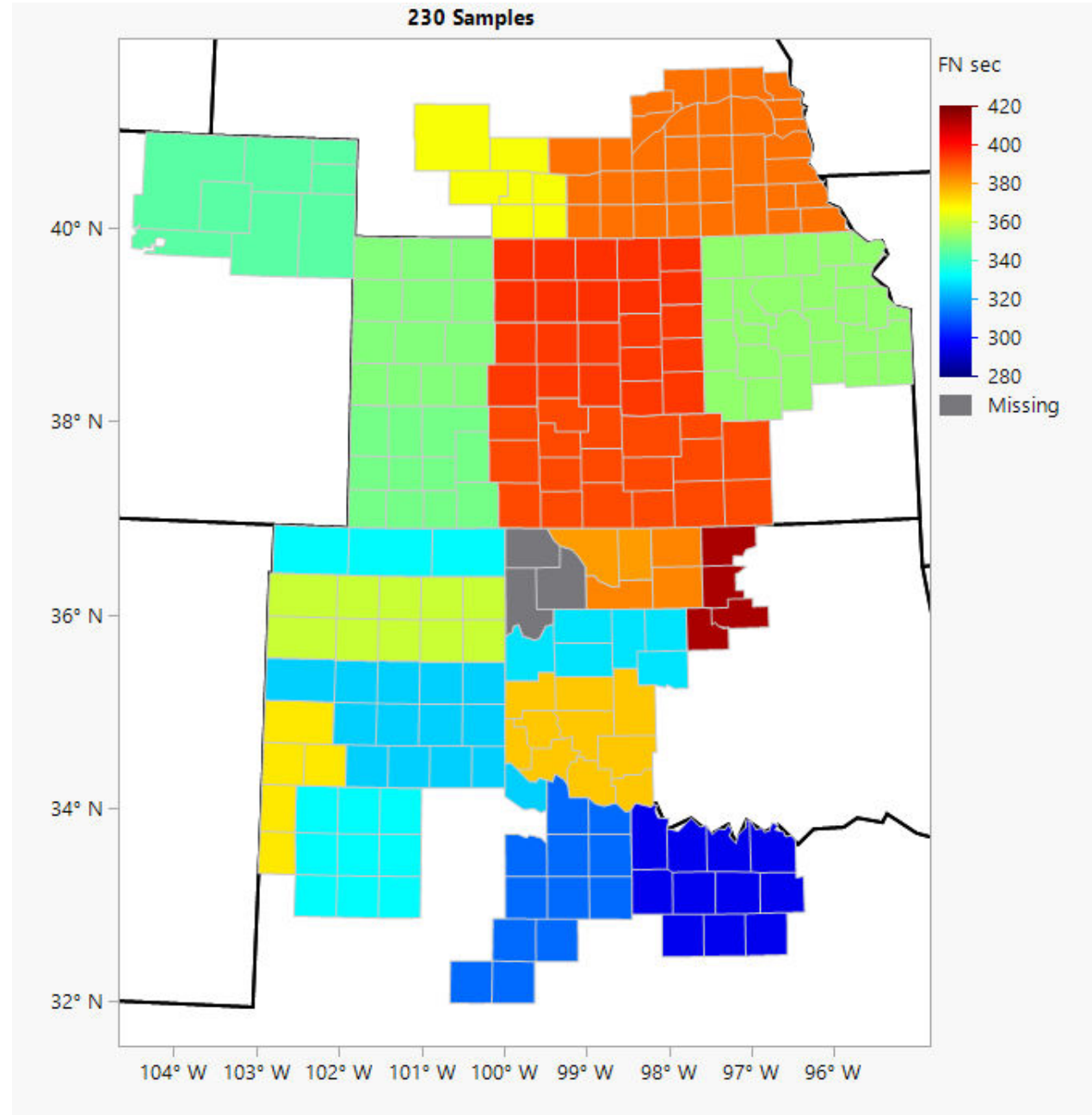
Test Weight,
lbs/bu
Average -
Individual Samples
Early reports were
good, rains
deteriorated test
weights as harvest
was delayed in
areas.



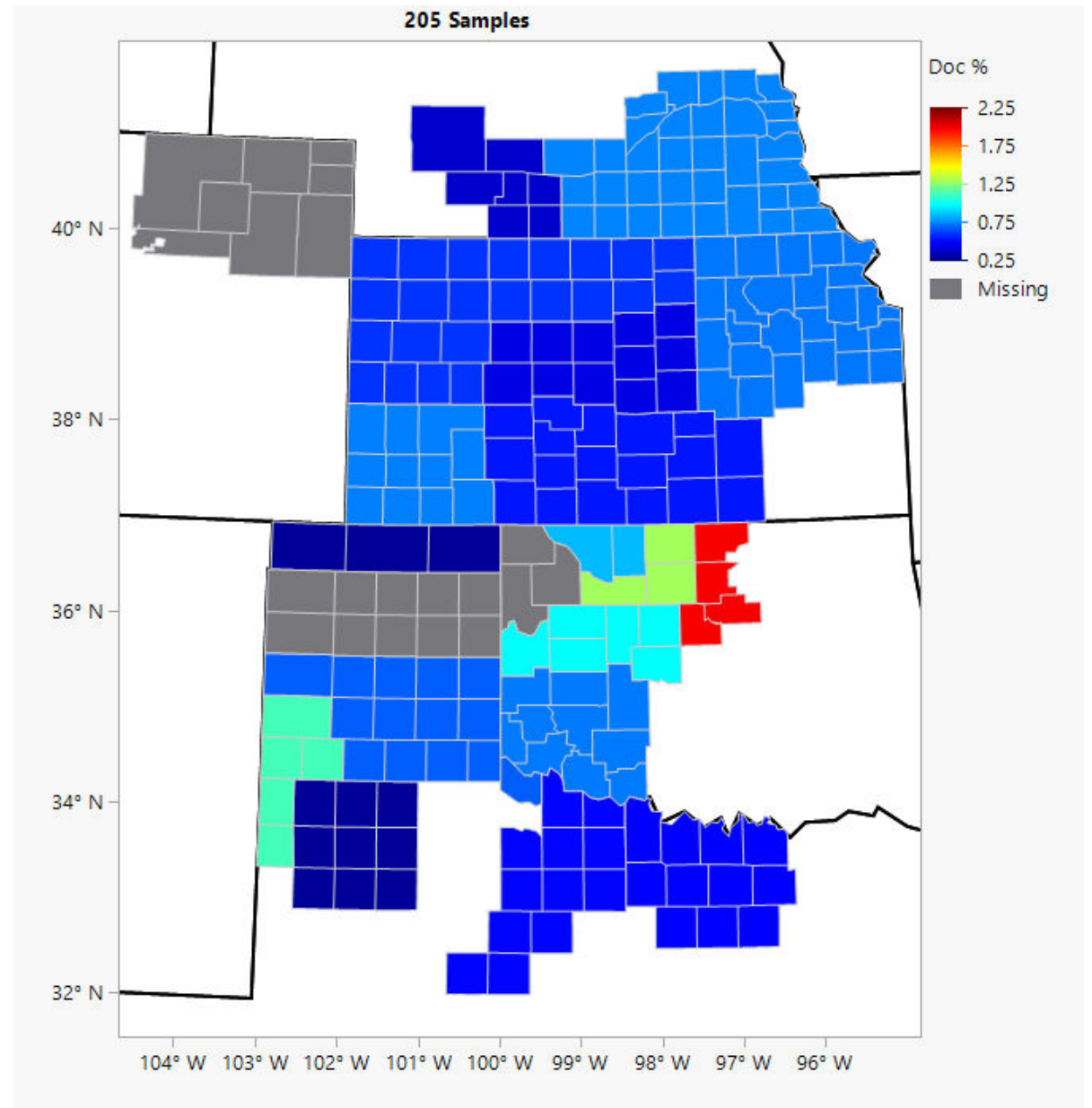
Wheat Protein (NIR,
12% mb), %
Average - Individual
Samples
2022 was a high
protein year in
Kansas. 2023 says
"Hold my beer..."



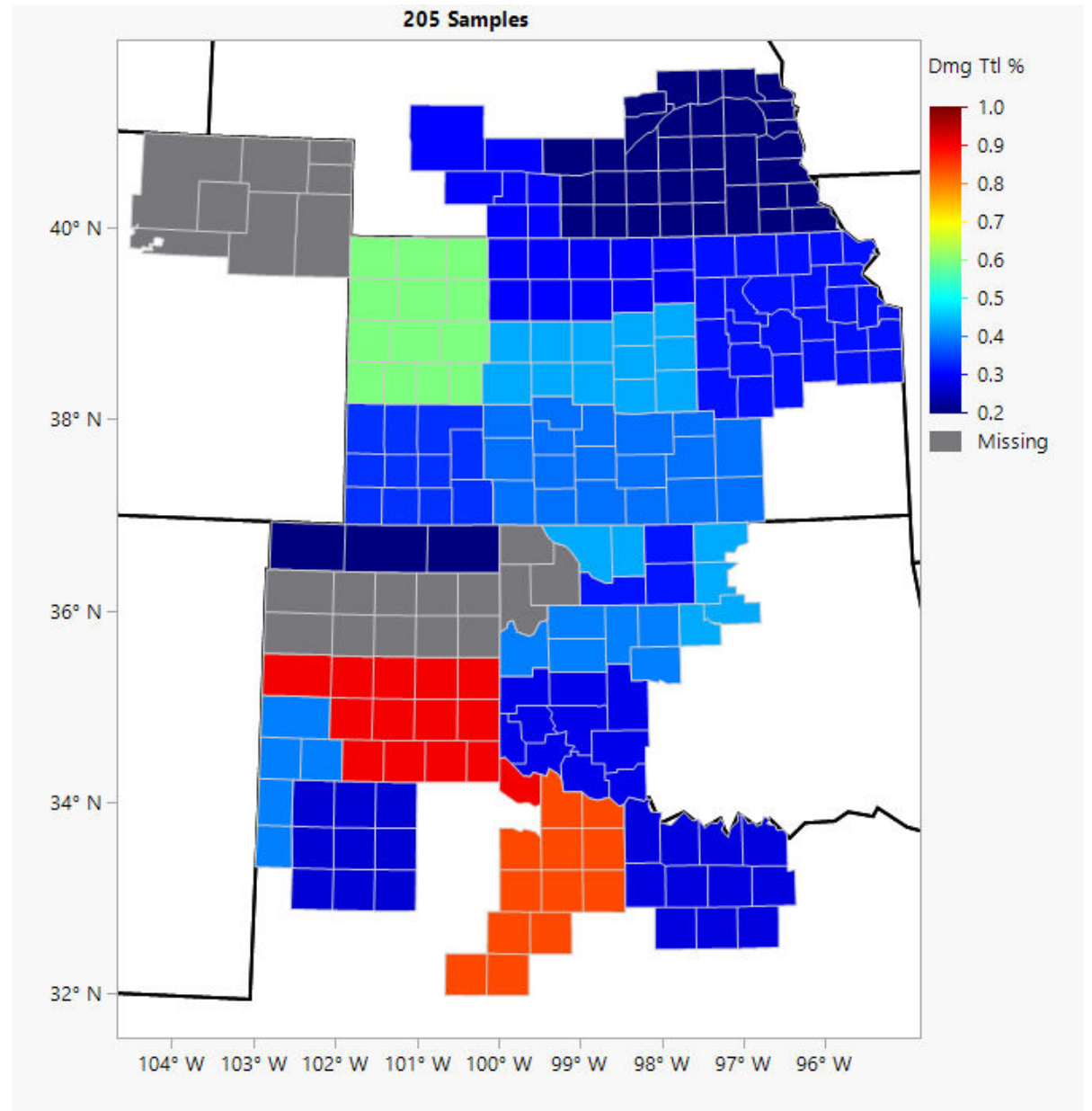
Wheat Falling Number, sec Average - Individual Samples



Dockage, % Average - Individual Samples



Damaged Kernels, % Average - Individual Samples



WHEAT DATA

	Samples		Moisture %	Protein %	Dry Basis Protein %	Dockage %	TKW gm	FN sec
	Tested	Expected						
This Week	205	520	12.0	13.3	15.1	0.9	31.0	366
Last Week	141	520	12.1	13.2	15.0	0.9	31.0	372
2022 Final	524	500	10.2	13.0	14.8	0.5	31.4	361
5-year Avg	488	500	11.1	11.6	13.2	0.5	31.3	370

GRADE FACTORS

Grade	Test Weight		FM %	Damage %	S&B %	Defects %
	lb/bu	kg/hl				
2 HRW	60.2	79.2	0.3	0.4	0.7	1.4
2 HRW	60.2	79.2	0.3	0.3	0.7	1.3
1 HRW	61.0	80.2	0.1	0.5	1.1	1.8
1 HRW	60.9	80.0	0.2	0.6	0.9	1.4

- US Winter Wheat Harvest progressing, north wrapping up in Kansas, finally.
- PNW and into Montana
- WQC Spring wheat tour this week, optimistic on yield expectations, not quite as good as last year but better than 5 year averages.
- Drought stressed southern plains resulting in lower production but early results showing higher protein and pockets of better than expected yields.
- A lot of variability on yields.

Identifying HRW for value.
US Domestic Flour Mill Market:
Protein values are narrow fairly narrow. Carries in the market, buyers will expect mills to manage space and blend accordingly. SRW will continue to be a discount and buyers' opportunity.

No. 1 hard winter, basis Kansas City

Sept.		Change
Ord.	+90@+100c	...
11%	+100@+110c	...
11.2%	+100@+110c	...
11.4%	+100@+110c	...
11.6%	+100@+110c	...
11.8%	+100@+110c	...
12%	+100@+110c	...
12.2%	+105@+115c	-10c
12.4%	+110@+120c	-5c
12.6%	+110@+120c	-5c
12.8%	+110@+120c	-5c
13%	+110@+120c	-5c
13.2%	+110@+120c	-5c
13.4%	+110@+120c	-5c
13.6%	+110@+120c	-5c
13.8%	+110@+120c	-5c
14%	+110@+120c	-5c

2023 HRW crop summary

Southern Plains HRW crop higher protein.

Northern HRW harvest early looks like lower protein.

Test weights impacted by delayed harvest, a lot of variability, but lower year on year.

TKW has been slightly lower 28-30 in 2023. Kernel hardness also looks a little softer.

Milling extractions slightly lower than 2022 but may improve with northern HRW.

Falling numbers in Texas and Oklahoma slightly lower than last year with isolated areas of below 275. Kansas FN similar to last year.

Farinograph stability higher on the southern harvest similar to 2022.
Bake performance similar to exceeding 2022.

Protein needs aren't just for flour millers: by 2023, two "Wheat Protein" facilities in Kansas, approximate capacity of 30 million bushels annually.

WHERE IT HAPPENS: The PureField Ingredients in Russell, Kan., turns Kansas wheat into high-quality ethanol and wheat protein for various markets.



Summit Ag begins build-out of wheat protein plant



Hard Red Winter wheat
usage trends – How to
Kansas Farmers Engage
their Customers?

- Added importance for the domestic user, but HRW is expensive.
- Long term strategy for hard winter wheat in the US.
- Recent market developments with Eastern European wheat imports may have opened “Pandora’s Box...”

UPDATE 1-United States buyers purchased about 60,000 tonnes EU wheat - Reuters News

🔥 30-May-2023 08:26:13 AM

To view this story on Refinitiv Workspace, click [here](#)

Adds purchase breakdown from paragraph three

HAMBURG, May 30 (Reuters) - Buyers in the United States are believed to have last week purchased about 60,000 tonnes of European Union origin wheat expected to be sourced about half each from Poland and Germany, European traders said on Tuesday.

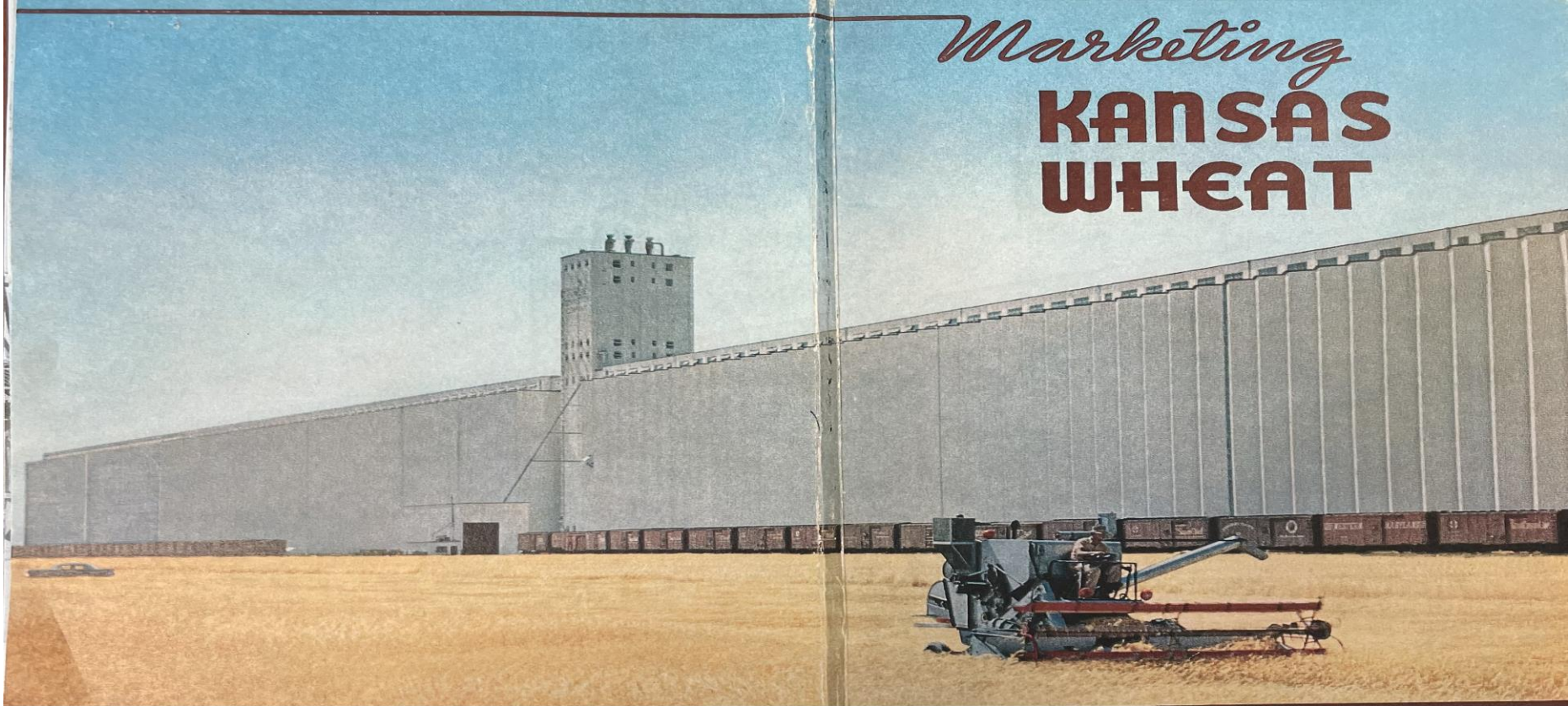
Shipment was believed to be in July.

This bought recent purchases of EU wheat by U.S. importers to a total of an estimated 270,000 to 300,000 tonnes including purchases of about 210,000 tonnes reported on May 23, they said.

The total purchases were said to involve a total of around ten shipments, with around seven from Poland and three from Germany all of around 30,000 tonnes, they said. Purchases are believed to involve milling wheat generally of 12.5% and 13% protein.

Shipment was mainly in June, July and August with low EU prices compared to the U.S. generating purchase interest, traders said. [GRA/EU](#)

“Poland appears to have considerably more high protein old wheat available than Germany,” one trader said.



Marketing
**KANSAS
WHEAT**

Thank you for
your time!

Justin P. Gilpin

jgilpin@kswheat.com

1990 Kimball Avenue

Manhattan, KS 66502

@jp_gilp

www.kansaswheat.org

Facebook: /kansaswheat

Twitter: @kansaswheat